222-3
225. DISPENSING BEVERAGES,
21 Soda Water

A.D. 1887. JUNE 25. Nº 9048.

BRÜNLER & ROMMENHÖLLER'S COMPLETE SPECIFICATION.

9048
1878
(1 SHEET)
225
21
Keep in
Box E8
Soda Water Apps.

Fig. 1.

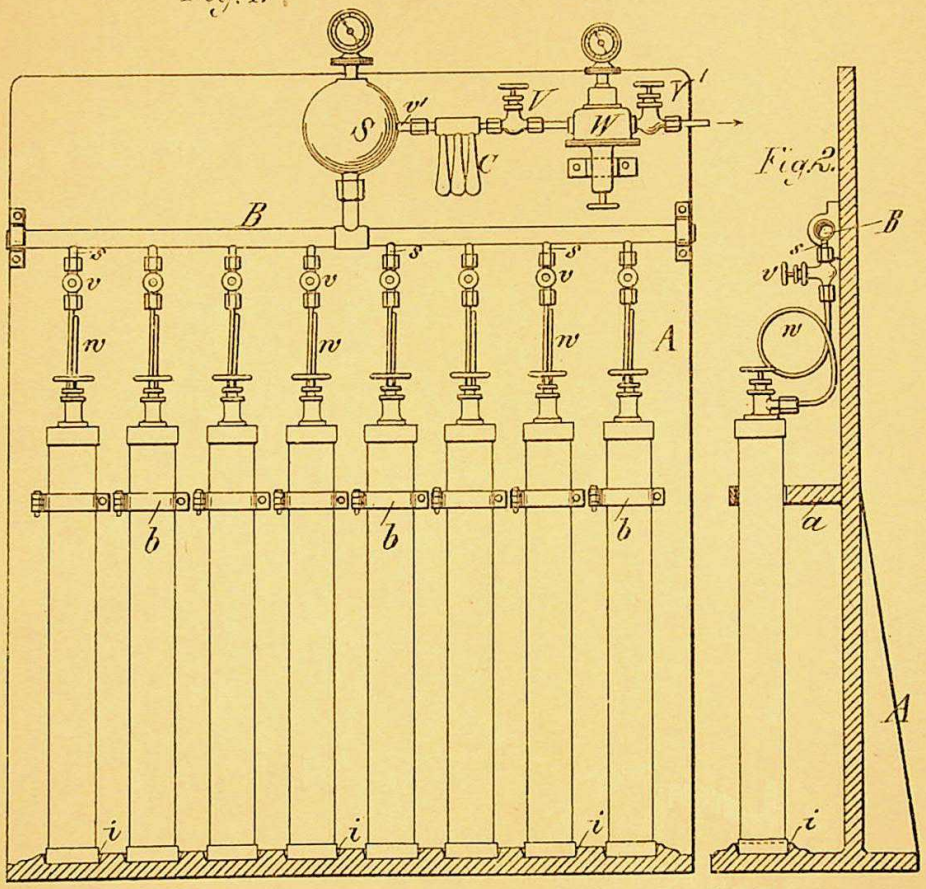


Fig. 2.




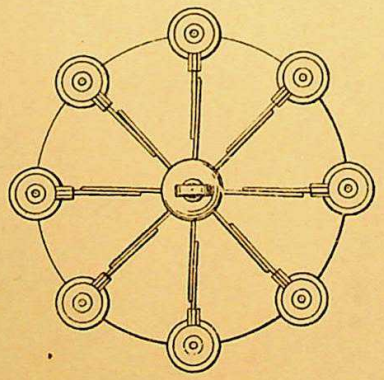

Fig. 4.

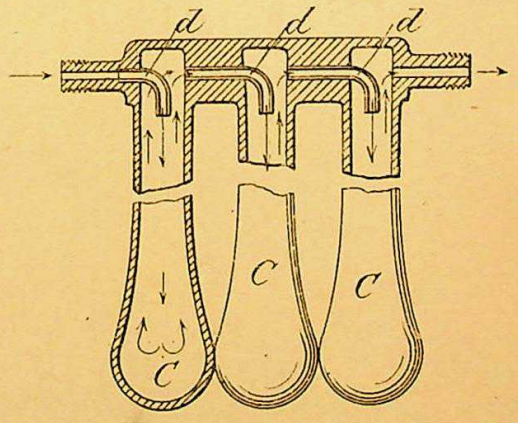


Fig. 3.

[This Drawing is a reproduction of the Original on a reduced scale]

LONDON: Printed by DARLING and SON
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*Date of Application, 25th June, 1887.*
*Specification Accepted, 12th Aug., 1887.*

A.D. 1887, 25*th* JUNE. N° 9048.

COMPLETE SPECIFICATION.

# An Improved Apparatus for Using Liquid Carbonic Acid in Large Quantities.

We OSCAR BRÜNLER of Tempelhof near Berlin, Merchant and CARL GUSTAV ROMMENHÖLLER of Rotterdam, Merchant do hereby declare the nature of said invention for "AN IMPROVED APPARATUS FOR USING LIQUID CARBONIC IN LARGE QUANTITIES" and in what manner the same is to be performed to be particularly described and ascertained in and by the following statement:—

In using liquid carbonic acid in large quantities out of the usual portable flasks inconveniences occur which chiefly consist in that the supply of heat from outside to the relatively small surface of the passages of the valve belonging thereto is too small as compared with the absorption of heat through the expansion of the liquid carbonic acid, and consequently the gas inside the flask and passages in connection therewith becomes torpid. This state of torpidity causes obstacles in the working, and danger also, inasmuch as considerable increase of pressure takes place in the said vessels by reason of the after gasification of the fixed particles of carbonic acid carried along, and the expansion of the highly cooled gas upon the later heating thereof, such heat being taken up by the gas reduced to a low pressure. A further inconvenience consists in that when the gas is largely used the pressure oscillates or wavers very much. The variation of pressure in the flask amounts to from 30 to 40 atmospheres, which has for result to limit very much the use of liquid carbonic acid where a constant high pressure is required for many purposes, further in the case of use on a large scale the handling of the flasks is troublesome and without a collecting vessel of larger or smaller capacity the process of impregnating liquids cannot be continuously carried on.

This invention has for object to do away with the said impediments.

Referring to the accompanying drawing which shews an apparatus such as we employ for the aforesaid purpose Figs. 1 and 2 are respectively a front view and a cross section thereof. Fig. 3 a detail view on an enlarged scale and Fig. 4 a modification. It consists mainly ;—of a frame A to which is attached a bracket *a* formed with—say eight or more semicircular recesses. The portable flasks are held fixed in these recesses by hinged fastening plates *b* and by insertion of their bottom end in recesses *i*. B is a pipe arranged parallel to the bracket *a* and provided with short

connecting tubes *s*, it is also in connection with stop valves *v*, and vessel S. *w* are elastic tubes which separately connect the flasks with B, their length allowing of their connection without difficulty to varying heights of flasks. $v^1$ is a connecting tube leading from the vessel S and in communication with the dirt collector C, stop valve V pressure reducing valve W and stop valve $V^1$.

The dirt collector C Fig. 3 works in the way that the oil,—which upon compression of the carbonic acid is always being carried along together with the metallic impurities formed by oxidation on the inner surface of the flasks and set free in transport—upon leaving the small nozzles *d* with great velocity in the direction of the arrows is forced against the bottom of the vessel whilst the gas takes it way back again in the direction of the outflow. By this means the very sensitive reducing valve W is kept clean and works properly.

When the pressure has left the flasks, these are removed and charged flasks connected in their place. By these arrangements a continuous working is made practicable as also by reason of the relatively large contact surface exposed to the outer air, cooling, shrinkage of pressure, and danger is prevented.

The modification shewn in Fig. 4 consists in a different arrangement of the flasks to that shewn in Figs. 1 and 2.

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is :

The combination of the frame A *a b i* with moveable tubes *w*, stop valves *v*, collecting pipe B, vessel S, high & low pressure stop valves V, $V^1$, & reducing valve W for the purpose specified substantially as described and shewn.

Dated this 25th day of June 1887.

EMIL CAPITAINE,
89, Chancery Lane, London, W.C.,
Agent for the Applicant.

LONDON: Printed by DARLING AND SON.
For Her Majesty's Stationery Office.

1887.